

nally, though certainly closely allied, the latter species is distinguishable by its generally browner colouring, by the darker crown, which is nearly black, and by its longer bill.

XXVIII.—*Ornithological Notes made in the Straits Settlements and in the Western States of the Malay Peninsula.*

By Lieut. H. R. KELHAM, 74th Highlanders. (Part I.)

COMPARATIVELY little having been written concerning the ornithology of the Malay peninsula, the following notes may prove of some interest, more especially to those ornithologists fated to pass most of their life in the far East. That something about Malay birds, however meagre it may be, is much wanted, I well know from personal experience, having still fresh in my memory the up-hill work of my first few months in the country. These I spent among the jungles of the peninsula, daily shooting heaps of specimens, yet without the means of satisfactorily determining their identity or finding out any thing about them beyond what I myself observed, only knowing this bird to be a *Pitta*, that to belong to the *Picidæ* or *Cuculidæ*, but in most cases being quite in the dark as to their particular species, though afterwards Jerdon's 'Birds of India,' a few volumes of 'Stray Feathers,' and some of the monographs, notably Mr. Sharpe's beautiful work on the Kingfishers, gave me much assistance. So, with the view of helping any one, very likely without a library close at hand, about to take up the study of Malay birds, I have put down my experiences, however slight, about each species I met with, at the same time adding details which, with very few exceptions, have been taken from my own specimens before they were skinned.

Regarding the Malay peninsula in an ornithological point of view, the range of mountains running down the middle of the country may be said to divide it into two divisions—the Western or Indo-Malayan, where the avifauna has much in common with that of India and Ceylon, and, on the other hand, the Eastern, of which the ornithology shows a strong

relationship with that of China, Borneo, and the Eastern Archipelago.

My observations are confined entirely to the Indo-Malayan division, and, though extending over a period of nearly three years' continuous and most essentially practical work, are necessarily of a fragmentary and incomplete nature, as in a country so rich in birds there must be many species of which I know but little: several I never even saw.

During a good deal of my time in the country I was stationed with my regiment at Singapore, in itself by no means a bad collecting-ground, while from it I made many bird-hunting expeditions to the mainland, visiting Malacca, Penang, Province Wellesley, Johore, the Moar river, and many islands of the Singapore Archipelago.

My first seven months were passed in the native States of Perak and Larut; and during that time I personally obtained examples of over two hundred different species—though, if I had but had an assistant to help in the skinning, I could have collected many more. Often after a hard day's shooting I had far more on hand than I could possibly manage, particularly in that hot, damp climate, where, in spite of carbolic acid, nothing would keep for any length of time. Nor must I forget to mention those mortal enemies to the naturalist, the ants; for though I stood the legs of my tables in oil-jars, hung my boxes to strings passed through bottles of water, used any amount of camphor, and tried every ingenious precaution that man could devise against their attacks, I have to thank them for the loss of many a specimen.

I found the oil-jar plan to answer best; but as sure as a straw, or even dust in any quantity, blew onto the oil, so surely would the ants at once find out the bridge, cross it in myriads, and in a few minutes one's cherished skins were a moving mass of these pests.

I have known them attack in thousands, and even eat holes in the skin of, a sickly bird in my aviary some time before it was actually dead; and in this way, among other specimens, I lost my only one of that curious pheasant-like bird, *Rhizothera longirostris*, Temm.

The peninsula, more particular its western half, is now being extensively worked by ornithologists from India ; so before very long, doubtless, its birds and their habits will be much better known than they are at present.

OTOGYPS CALVUS (Scop.).

Early in February 1877, near Kwala Kangsar, on the Perak river, I came across one of these Vultures in company with several of the common brown species, *Pseudogyps bengalensis*. They were all busily engaged feeding on the decaying carcase of a buffalo, but rose at my approach ; and this bird flew so close over head that a charge of snipe-shot brought it flapping to the ground. Except on this occasion, I never met with *O. calvus* ; nor did I see any specimens in the Malaccan or Singapore collections. My bird was an adult, of such dark plumage as, at a short distance, to look quite black ; legs, bare skin of head and neck pinky red, irides yellow.

PSEUDOGYPS BENGALENSIS (Gm.).

The common Vulture of the country, collecting in the most marvellous manner wherever there is carrion.

One evening in Perak I lay concealed at the edge of the thick jungle, and watched for a long time a crowd of these scavengers squabbling over a dead buffalo, which had died on some open ground within 50 yards of where I was. They became so gorged that, on my coming out of the bushes, it was with difficulty they took to wing, then flying but a short distance and squatting in rows along the upper branches of a large dead tree, from which I picked off three of their number with my pea-rifle.

Across the wings, from tip to tip, they measured slightly under 7 feet ; irides dark brown ; legs, bare skin of head and neck black.

MICROHIERAX FRINGILLARIUS (Drap.).

This tiny Falcon, not much larger than a Sparrow, is plentiful in the south of the peninsula, and on the island of Singapore.

I noticed it was particularly fond of perching on the upper branches of dead trees, from its elevated position making

short flights into the air after beetles and other insects, but each time returning to the same bough, after the manner of the Flycatchers.

One afternoon, near Tanglin, Singapore, I stood within a few yards of one of these Falcons, and watched it feeding on a large beetle, which it held firmly in one foot and tore to pieces with its strongly notched beak. Possibly they sometimes prey on small birds; but they themselves are so small that I doubt if they could kill any thing more powerful than a Sun-bird or small Warbler. Certainly, as a rule, they are insectivorous; for I have dissected several, and in every case the stomach contained only fragments of beetles, dragonflies, and other things of a like nature, no bones of mice or small birds.

The sexes appear to be of similar plumage, in colour a deep blue-black, marked on the face and wings with white, the underparts are also white; length between 6 and 7 inches.

BUTASTUR INDICUS (Gm.).

The only one I obtained I shot near Kota Lama, Perak, on February 17, 1877. I had just killed a Snipe; and at the report of my gun this bird rose from the topmost limb of a large tree, and, passing within range, fell to my second barrel.

ACCIPITER VIRGATUS (Temm.).

The Besra Sparrow-hawk appears to be migratory, as, though common in Singapore during October and November, I did not meet with it at any other time of year, and a friend who, early in November, was a passenger on one of the small steamers plying between Sarawâk and Singapore, informed me that when near the latter place fifteen or twenty of these little Hawks settled on the rigging; and being weary, seven of them were easily caught by the seamen.

My first acquaintance with the species was from seeing one dash along under the verandas of the bungalows in the Tanglin barracks right into the midst of a flock of tame pigeons, scattering them in all directions. During the

following week I obtained two, which, in the excitement of their chase after the pigeons, flew into the barrack-rooms and were caught. One of these I kept for some weeks; and it became fairly tame, taking raw meat and small birds from my hand. It was a young male, its irides being pale yellowish brown, and the dark brown feathers of the upper parts blotched with white and edged with rusty brown. Length $10\frac{1}{2}$ inches, tarsus barely 2 inches, legs greenish yellow, beneath white with a slight rufous tinge, and having long, oval, brown drops on the breast, and bands on the abdomen and flanks; tail ashy grey with brown bars.

In November 1879, while collecting on Pulo Battam, one of the thickly wooded islands near Singapore, I saw a pair of these Hawks, and shot one of them while in hot pursuit of a small bird. It was a male; length about $11\frac{1}{4}$ inches, tarsus 2 inches, legs yellowish green, tail ashy grey crossed with dusky bars. The plumage of the upper parts were of a much darker brown than in the above-described specimen; still the feathers were all edged with rufous-brown, and the underparts white, which, according to Dr. Jerdon, is characteristic of the immature bird; he also states the mature male to have the breast and flanks almost ferruginous.

LIMNAETUS CALIGATUS (Raffles).

This Hawk-Eagle breeds in Perak. Near Kwala Kangsar, during May 1877, I obtained a nestling, so young that it was a mere ball of fluffy down. It throve wonderfully, its appetite being simply insatiable, and rapidly grew into a very handsome bird, so tame that I could handle it with impunity.

Its usual perch was on a rung of the ladder leading up into one of the huts occupied by the men of my company, with whom it was a great favourite; and when the troops were withdrawn from Perak it accompanied us, along with wild cats, monkeys, lorikeets, and pets of all kinds, to Singapore, where I placed it in the aviary of the Botanical Gardens.

In December 1880, when I left the Straits, the bird, then nearly three years old, was in a very flourishing state, but had

changed very little either in size or plumage from what it was at the age of six months; in fact, it appeared to attain its full size when about three months old. At that time its upper parts were dark brown, marked with white on the wing-coverts, tail brown barred with a darker shade of the same colour, underparts and legs white, the breast slightly streaked with brown; the feathers of the head were brown with dark tips, and formed a short crest, which, when surprised or startled, the bird had a habit of raising, at the same time moving its head from side to side; its irides were clear brown, cere and bill bluish black, legs pale yellow, and feathered to the toes.

PANDION HALIAETUS (Linn.). The Osprey.

One November afternoon (very unlike an English one though, the thermometer standing at between 85° and 90° F. in the shade), while snipe-shooting in the Mount-Echo valley, Singapore, I saw two large birds coming towards me; so I crouched down in hopes of a shot. On they came, sailing along about forty yards over the swamp, every now and then swooping down to seize some luckless fish or other prize. When quite close to me one of them suddenly stopped, as if to make sure of its aim, then dashed down at a tremendous pace into a small stream which wound through the valley, and sent the water flying all directions, the next moment rising with something in its claws. This, however, it did not live to enjoy, as my shot brought it down; and I found I had got a magnificent Osprey, a male, measuring 5 feet 8 inches across the wings.

POLIOAETUS ICHTHYAETUS (Horsf.). The White-tailed Sea-Eagle.

In January 1877, I shot one of these Eagles, which for some time had frequented a jheel near Saiyong, on the banks of the Perak river. Several days passed before I managed to get a chance at it, as it was generally far out in the middle of the jheel, sitting on a fallen tree which rose a few feet above the surface of the water, in a part devoid of reeds or other covert.

Its head and neck were grey, upper parts brown, irides dull yellow, tail white with a broad black bar.

HALIAETUS LEUCOGASTER (Gm.).

The Grey Sea-Eagle is common round the southern coasts of the peninsula, particularly at the mouths of the rivers, where I often used to see it sitting on the fishing-stakes.

I found it very plentiful about the mud-flats at the entrance to the Larut river. An officer of my regiment, stationed at Penang, tells me it breeds there, making a large nest near the tops of high trees.

CIRCUS ÆRUGINOSUS, Linn. The Marsh-Harrier.

During November, while shooting Snipe near Bukit Miniak, Province Wellesley, I shot a Marsh-Harrier as it was quartering over the paddy-swamps; it was a young bird, with the irides brown instead of yellow as in the adult.

CIRCUS CINERACEUS, Montagu. Montagu's Harrier.

In August 1877, while travelling down the Moar river, and when within about thirty miles of its mouth, one of our party shot a Harrier as it flew over our boat. Besides being much knocked about by the shot, it fell into the water, and was such a draggled mass of feathers when we picked it out that I did not think it worth preserving. I also unfortunately neglected to write down a more accurate description of it than that it was a Harrier of ashy grey plumage, vent and thighs white, irides yellow, length from 18 to 20 inches; still, probably, it was *C. cineraceus*.

HALIASTUR INDUS (Bodd.).

The Brahminy Kite is common throughout the Straits Settlements, particularly about the harbours, where it may be seen in considerable numbers picking up the refuse from the ships.

I found them plentiful in Perak. At Kwala Kangsar, in company with the Crows, they used to collect at the place where all the offal from our camp was deposited, and carry off any filth they could find, often chasing the Crows and making them drop any particularly dainty morsel, which was

quickly picked up by the pursuing Kite, though he, in his turn, frequently had to run the gauntlet of his comrades.

In the Straits Settlements, both this species and *Milvus affinis*, on account of their foul feeding, have obtained a most expressive, but very objectionable, nickname.

MILVUS AFFINIS, Gould.

On October 21, 1879, I shot a Pariah Kite in the Mount-Echo valley, Singapore.

PERNIS PTILORHYNCHA (Temm.). The Crested Honey-Buzzard.

I am able to record but a single specimen of this Buzzard, shot during November, near Changie, Singapore; it showed no signs of the crest.

Length nearly 27 inches; legs yellow, beak dusky yellow at its base; the wings reach to within 3 inches of the end of the tail; feathers of face very scale-like, tarsi well plumed; entire plumage rich brown with a decided rufous tinge, particularly about the head and neck; all the feathers are dark-shafted; central streak and one on either side from the gape dark brown, very distinctly marked; tail dull brown faintly barred with white.

BAZA LOPHOTES (Temm.). The Crested Kite.

I saw a specimen of this bird in a collection made by an officer of my regiment while at Malacca.

STRIX JAVANICA, Gm. Malay Screech-Owl.

While quartered at Kwala Kangsar, Perak, a Malay whom I employed to snare birds brought me one of these Owls alive; it was rather like *S. flammea*, except in being more spotted, particularly about the facial disk.

KETUPA JAVANENSIS, Less. Malay Fish-Owl.

I shot several specimens of this large Owl in Perak, where it was by no means rare, though not often met with owing to its nocturnal habits. It retires during the heat of the day into the densest parts of the jungle.

One afternoon in May I was making for a nesting-place of the Weaverbird, *Ploceus baya*, in the neighbourhood of

Kwala Kangsar, and on my way had to pass through a gloomy swamp, clear of undergrowth, but with the trees interlacing so thickly over head as to throw the whole place into deep shade, while from above long tangled creepers hung down into the pools of stagnant water. Altogether it was a most weird spot; and I was hastening on to get out again into the sunlight, when, within a few yards, up rose a huge Owl, which I shot; but being only winged it turned on its back and, till I put an end to its struggles, fought most fiercely with my retriever. Its last meal had been of a most miscellaneous nature; for, on dissection, its stomach contained a piece of stick, the jaw-bone of a rat, portions of beetles and dragonflies, some vegetable matter, and, lastly, a great red centipede measuring 7 inches in length.

This bird was a female, length 19 inches; irides golden-yellow, legs grey, plumage pale rufous-brown, the feathers having bold central streaks of dark brown; wings and tail dark brown, barred with rusty white; throat and shoulders white; ear-plumes over 2 inches in length; feet and talons very powerful.

I kept one of these Owls alive in a cage for several weeks, feeding it on raw meat and dead birds. It thrived well, but was exceedingly savage, so much so that when leaving Perak, not being able to take the bird with me, and yet wanting its skin as a specimen, I hardly knew how to kill it without damaging its plumage or it tearing my hands, until I thought of chloroform; and a handkerchief soaked in that soporific and thrown over the bird's head quickly solved the question. I once saw one of these Owls in Singapore; it was flushed by the beaters when beating the jungle for sambur and pig.

SCOPS LEMPIJI (Horsf.).

For some time, owing to their small size, I put down my specimens of this little Scops Owl as *S. malayanus*, Hay; but they have now been identified by Mr. Gurney as Horsfield's *S. lempiji*; and on carefully reading what Dr. Jerdon says on the subject, I see he states that there are several phases of *S. lempiji*. Both as regards plumage and size and with the

description of his third or, as he terms it, Malabar or rufous variety my birds agree.

They now lie before me, in plumage exactly alike, but in length one measures 8 inches, the other $8\frac{3}{4}$ inches; both had yellow irides, though in the case of the smaller bird they were rather dull, with a brown tinge.

I obtained two of these Owls alive by their flying into our barracks at Singapore; the first was caught late in October, the other on the 2nd December.

Round Tanglin, Singapore, on a still evening, their mournful monotonous hoot was commonly to be heard; and soft and low as it seemed to be, it was wonderful at what a distance it could be heard, certainly at from a quarter to half a mile. I do not think I am mistaken as to the vocalist being of this species; for on one occasion I stood within a couple of yards, listened for some time, then frightened the bird out into the moonlight. It might possibly have been *S. malayanus*; but I think not: that species puzzles me considerably; it seems so like some varieties of *S. lempiji*. My friend Mr. W. E. Maxwell, Assist. Resident of Perak, I believe, refers to *S. lempiji* in a letter to me, in which he says:—"The 'punggok,' a small Owl, has a soft plaintive note, and is supposed to make love to the moon. 'Seperti punggok merindu bulon' (Just as the punggok sighs for the moon) is a common expression in Perak, applied to a desponding lover."

NINOX SCUTULATA (Raffl.). The Brown Hawk-Owl.

After a day's Teal-shooting on Saiyong jheel, I was returning in the dusk to camp, walking along the side of the Perak river, when I noticed two birds sitting on a stump which stood a few feet out of the water at about thirty yards from the river-bank; every now and then they left their perch, and either fluttered up into the air or else swooped down and skimmed close over the surface of the water as if hawking for insects, always, however, returning to their original position on the stump.

Wondering what they could be, I shot one, and found I had got a fine male specimen of this curious Owl. My con-

jecture as to what they were feeding on proved correct ; for, on dissecting the one I shot, its stomach contained five large beetles, nothing else. I looked most carefully for traces of fish, thinking that possibly the prickly cactus-like bristles which grew all over the bird's toes were intended by nature to assist it in securing slippery prey ; but apparently such is not the case, unless it feeds exclusively on water-beetles and aquatic insects, which would certainly be difficult to hold.

This bird, a male, measured 11 inches in length ; irides yellow ; entire plumage dull brown, rather rufous beneath ; some of the feathers of the breast and belly white-edged ; tail crossed by five dark bars ; under tail-coverts white ; legs feathered to the toes, which were covered with stiff bristles.

HIRUNDO GUTTURALIS, Scop.

The Swallow is common throughout the Straits, and identical with the Chinese race, as specimens I shot at Singapore were exactly similar to others which I got near Hong Kong ; nor does it appear to differ much from the well-known European *H. rustica*, unless perhaps in being slightly smaller.

CHÆTURA LEUCOPYGIALIS, Blyth. The Small Spine-tailed Swift.

I obtained this bird in Singapore in July 1879 ; also in Perak.

CHÆTURA GIGANTEA (Temm.).

The Large Malay Spine-tailed Swift is apparently distributed in considerable numbers throughout the country, as I met with it in all the Straits Settlements, also in Johore, Perak, Larut ; and, far up the Moar river, at Sagamet, in the very heart of the Peninsula, I saw large flocks of them hawking over the river. I shot my first specimen one morning in February.

While walking along the flat sandy beach bordering the Perak river near Saiyong, a party of eight of these large Swifts darted past at a tremendous pace, so fast that one heard the shish ! of their wings, and the next instant they were almost out of sight, but, circling round, again came within shot, which I took advantage of and secured one. It

was a female, $9\frac{1}{2}$ inches in length, irides dark brown, legs and feet dark purple, under tail-coverts white, with the feathers dark-shafted; rest of plumage brownish black, lightest on the back, with a steel-blue metallic lustre on the head, nape, wings, and upper tail-coverts: the tail consisted of ten feathers, with their terminal portions bare and as sharp as needles; the wings projected 3 inches beyond the tail.

CYPSELUS SUBFURCATUS, Blyth.

Plentiful throughout the Straits. When at Malacca, during the first week in December 1879, I found a colony of these Swifts breeding in the ruined convent which stands on the hill overlooking the town and anchorage. In the early part of the day hundreds of them were flying in and out of their nests of clay and straw, which hung in great clusters of thirty or more under the crumbling arches of the convent-windows, and apparently contained young. The old birds became very much excited at my approach, and made a tremendous noise as they flew backwards and forwards. I was told that they commence to build early in November.

Without a ladder it was impossible to get at the nests; so I was unable to examine their contents.

One of this species, which I shot at Singapore on 5th May, out of a flock of six, measured $5\frac{1}{2}$ inches in length; irides dark brown, underparts brownish black, darkest on the back, and slightly glossed with green; head brownish, palest on the forehead; chin, throat, and rump white; underparts brownish black; tail square. To me this bird seems to answer *exactly* to Dr. Jerdon's description of the Indian Swift, *C. affinis*.

CYPSELUS INFUMATUS, Selat. The Palm-Swift.

Common in the Straits, where it breeds, affixing its tiny nest to the under surface of the leaves of the palm trees. During the month of July I saw a large gathering of these Swifts flying round some betel-nut palms bordering the Bukit Timah road, Singapore. They kept up an incessant twitter, every now and then darting under and remaining for some seconds among the leaves, where they evidently had nests, as I could hear the feeble twittering of the young birds.

The day being extremely hot, and the tall, slender stems of the trees any thing but inviting, I regret to say I had not sufficient energy to climb up and secure a nest; however, I shot one of the birds, so as to be quite certain as to their species. It measured $4\frac{2}{3}$ inches in length; irides dark brown; plumage mouse-brown, darkest on the head and wings, which have a faint bluish-green tinge, beneath pale brown.

COLLOCALIA LINCHI (Horsf.). The Edible-nest Swiftlet.

This tiny Swift is one of the Malayan representatives of the genus *Collocalia*, or Edible-nest-building Swifts, of whose gelatine-like nests, formed of mucus from the bird's salivary glands, is made the glutinous soup which, with Sharks' fins and other delicacies strange to the European stomach, is found on the dinner-tables of the "upper ten" among the Chinese, though, as the nests cost something like a guinea an ounce, it is only by the wealthy, and probably by them only on great occasions, that this expensive luxury is indulged in. This delicacy tastes rather like ordinary vermicelli soup. I was told that the birds built in caves on the coast; the nests adhere to the rocks, often in very precipitous places, and are only obtained at considerable risk to the collectors; hence the fancy price they fetch.

My specimens I shot on the island of Singapore, late in August; but doubtless the species is distributed throughout the Straits.

Length 4 inches; irides dark brown; the wings project $1\frac{1}{2}$ inch beyond the tail; tarsus $\frac{2}{3}$ inch; plumage black, glossed on the upper parts with bluish-green; beneath dusky, the feathers of the belly and vent edged with white, presenting a mottled appearance.

DENDROCHELIDON KLECHO (Horsf.). The Malayan Crested Swift.

My first acquaintance with this species was while travelling in Perak, where it certainly cannot be put down as common. Early in April, with H.B.M.'s Resident, I visited some tin-mines at a place called Salak, situated at the foot of the range of mountains running about ten miles east of Kwala Kangsar.

After an intensely hot ride of several hours on elephants, we reached our destination, a settlement of about half-a-dozen huts occupied by Chinese miners, who received us civilly, but were extremely anxious lest we should enter the workings with our boots on, or touch any of the burning joss-sticks, little smouldering tapers lit to propitiate the good or keep off the evil spirits. These miners, being exceedingly superstitious, imagine the ground to be peopled with demons who have the power of rendering the metal scarce or otherwise. Any body entering a mine with his boots on is supposed to give such offence to the spirits that the ground ceases to yield ore, and becomes worthless,—a strange superstition, the origin of which I was unable to find out.

These Salak mines had been worked in former years; but when the disturbances broke out in Perak the Malays burned the shanties, and the miners fled. The old workings had filled with water, forming several small ponds, over which were flying some birds of the Swift-tribe, there were twenty or thirty of them flying backwards and forwards over the pools, at one moment dipping suddenly down and just breaking the surface of the water, then rising high into the air, uttering a loud twittering note. Every now and then they deserted the ponds, and settled along the bare upper branches of an enormous dead forest-tree which stood near. They were too high up for me to ascertain as a fact that they were nesting; but probably such was the case, and the birds which I saw squatting along the bare limbs of the tree were in all probability sitting on their nests—small, clay, cup-shaped structures, usually, I believe, built on the upper horizontal branches of high trees.

While on the tree the Swifts were far out of gun-shot; but by waiting till they returned to the water I secured two or three specimens; and the following is a description of one of them:—It differs from *D. coronatus*, the Indian species, in being much smaller, also the tail does not project beyond the tips of the wings. Length from beak to end of tail 8 inches; irides dark brown; legs and feet dull purple; head, crest, upper parts, wings, and tail bright metallic bluish-green, ex-

cept the rump, which is grey; underparts grey, becoming white on the abdomen and vent.

In Singapore, late in August, I shot a Crested Swift out of a flock of about twenty as they dashed past in a southerly direction. Could they have been migrating? It was the only time I saw any of them on the island; and they did not loiter, but flew straight on in a direct line, as if with a fixed purpose.

DENDROCHELIDON COMATA (Temm.).

I saw specimens of this curiously plumaged Swift which had been shot near Changhie, Singapore; mine were killed on Gunong Pulai, Johore.

CAPRIMULGUS MACRURUS, Horsf. The Malay Nightjar.

One of the most common of Malay birds, but more so in cultivated districts than in the thick jungle, though even there it abounds wherever there are roads or clearings.

About the Singapore roads it is very plentiful of an evening, either hawking for the insects which then swarm, or else squatting motionless on the road till almost trodden on, when it rises with a flutter into the air, and, skimming close over the ground, settles again a little further on. During the heat of the day the Nightjar retires to the depths of the jungle, frequenting those parts which are in deep shade; but towards dusk it sallies forth in search of food, and, particularly on moonlight nights, its monotonous chunk! chunk! chunk! chunk! is heard on all sides, about the most noticeable of the many strange nocturnal sounds. These peculiar notes have a metallic ring, very like the sound made by throwing a stone on the ice. I never heard the bird utter them while it was flying, occasionally when squatting on the ground, but more often from a post or dead tree—the same bird frequenting the same position night after night, much to one's annoyance if it happens to select a place near one's bedroom-window.

When I was in camp at Kwala Kangsar, one of these Nightjars came every evening to an old seat of tree-trunks within ten yards of my hut, and made such a "chunking" as to render sleep impossible. So, after putting up with it for several

nights, at last (one evening when it was particularly noisy) I took out my gun and shot it ; and from that time the nuisance ceased, and I slept in peace. One of my Perak specimens, a male, shot on 10th March, 1877, measured slightly under 12 inches ; irides dark brown ; rictal bristles white at their bases ; upper plumage ash-brown, minutely speckled with a darker shade of the same colour ; bold longitudinal dashes on the crown, nape, and scapulars, also dark brown blotches on central tail-feathers ; chin, face, and nape rufous-brown ; bar across primaries, the ends of outer tail-feathers and of under tail-coverts, also triangular patch on the throat pure white ; beneath dull rufous-brown, pale on abdomen, and barred with dusky brown.

MEROPS QUINTICOLOR, Vieill. ; and M. BADIUS, Gm.

I obtained both these birds on the banks of the Perak river, also at Malacca and Singapore.

On reference to my note-book I find :—" Kwala Kangsar, Perak, 15 Feb. 1877. Saw several Bee-eaters near the river ; two of them kept flying about a leafless tree, now and then resting on its topmost branches ; wanting specimens, I shot them both, and found them to be *M. quinticolor*, not unlike the European *M. apiaster*. One of these birds, a male, measured 8 inches in length ; head and nape pale ruddy chestnut, wings bluish-green ; chin and throat pale yellow, bounded below by a dark bar ; lower back and upper tail-coverts pale blue, tending to white.

" Its stomach contained beetles and small flies."

" Kwala Kangsar, Perak, 25 Feb. 1877. Close to camp I came on several Bee-eaters, which were flying about a sand-bank near the river ; they were of two species, *M. quinticolor* and *M. badius*.

" I shot specimens of each. One of the latter, a male, measured 12 inches in length ; irides crimson ; head, nape, and upper back rich dark chestnut ; the two central tail-feathers taper to a point nearly 3 inches beyond the rest of the tail ; chin, throat, and tail blue ; lower back and tail-coverts pale blue ; beneath bright green, becoming whitish and slightly tinged with pale blue towards the vent,"

MEROPS PHILIPPINUS, Linn. The Blue-tailed Bee-cater.

Very common in Singapore during the north-east monsoon.

Arriving in great numbers towards the end of September, it keeps in flocks of from ten to twenty, and frequents low-lying ground and wet paddy-fields, over which it hawks for insects, at one moment swooping down at a great pace close to the ground, the next rising high into the air and sailing along without a move of its wings; when at rest it is generally to be seen on some conspicuous isolated spot, such as the top of a post or the highest branch of a dead tree.

In Singapore I think I may put it down as migratory; for, on reference to my notes, made daily, I can find no record of its occurrence except during the wet season.

On 17th October, 1879, they were very plentiful at Sirangoon, Singapore. One I shot measured 12 inches in length, bill at front $1\frac{7}{8}$ inch; irides crimson, bill black; upper parts dull green, tinged on the head and tertiaries with pale blue; rump and upper tail-coverts beautiful light blue; tail dull blue, two central feathers elongated; chin pale yellow, throat pale chestnut, abdomen pale green; streak below eye black, bordered below with light blue. The entire bird, with the exception of the light-blue portions of its plumage, was most beautifully glossed with a golden coppery tinge, giving it, when in the sun, a brilliant burnished appearance.

NYCTIORNIS AMICTUS (Temm.).

Certainly not a common bird, as I only once myself obtained it, though I saw it in Malaccan collections; then, being new to me, I assigned it to the Meropidæ. The following extract is from my notes made at the time:—

“Kwala Kangsar, Perak, 27th Feb. 1877. This morning my native bird-catcher brought me two birds of most gaudy colours; he had snared them in the neighbourhood. From their long curved beaks, brilliant plumage, and general appearance I think they must belong to the Meropidæ or Bee-caters; anyhow, they are certainly related to them.

“These birds have a most peculiar and rather pleasant aromatic scent about them.”

I put them into my aviary ; and at first they did well, feeding on plantains, and hopping about most cheerfully, every now and then flirting up their long tails after the manner of *Copsychus musicus* ; but after a few days they sickened and, much to my regret, died ; so all I could do was to add their skins to my collection. The male was slightly less than 13 inches in length ; irides bright orange ; toes four in number, one inclined backwards ; forehead lilac ; throat and pectoral plumes scarlet, the centres of the latter dusky ; rest of plumage bright green, except tips of tail-feathers, which were black beneath, their basal portions being yellow. Some specimens of this species which I bought at Malacca measured under 12 inches in length ; but probably the skins had shrunk.

EURYSTOMUS ORIENTALIS (Linn.). The Broad-billed Roller.

This Roller appears to be distributed throughout the country, but is particularly plentiful among the virgin forests of Perak. I hardly like to say it is nocturnal in its habits ; still it is rarely met with during the heat of the day ; but in the country round Kwala Kangsar, Perak, I frequently saw it of an evening when on my way home after a day in the jungle ; it was usually perched on the upper branches of some tree, from which it made short flights into the air in pursuit of insects. The first one I shot was only winged, and, turning on its back and uttering harsh screams, it fought most savagely with my dog. It was a male ; length 11 inches ; irides dark brown ; legs, feet, and beak scarlet ; plumage greenish blue ; head almost black ; wings very prettily marked with blue and black, each having on it a spot of very pale blue ; patch on throat rich violet ; beak short, strong, and hooked at tip ; gape and eyes very large.

I also shot specimens at Changie, Singapore.

PELARGOPSIS MALACCENSIS, Sharpe. Large Stork-billed Kingfisher.

This magnificent bird is fairly plentiful, particularly about the jheels of the interior. I shot several on Saiyong and Kota Lama jheel, Perak ; one of them, a female, shot on 24th March 1877, was $13\frac{3}{4}$ inches in length, bill scarlet,

HALCYON SMYRNENSIS (Linn.). The White-breasted Kingfisher.

By far the most common of all Malayan Kingfishers ; it is a very widely distributed species ; I have shot specimens as far east as Hong Kong (that is to say, if the Chinese and Malayan birds are identical, which they seem to be) ; westward it is plentiful throughout India and Ceylon, according to Jerdon extending even to the eastern shores of the Mediterranean.

In Canton the skins of this Kingfisher are articles of commerce, the beautiful azure-blue plumage of the upper parts being much used in the manufacture of jewelry, and I saw ear-rings and other trinkets in which particles of its feathers had been so deftly worked as to look exactly like blue enamel.

In the Malay peninsula it is exceedingly abundant about the wooded jheels and rivers of the interior, though also plentiful among the paddy-fields of the cultivated districts ; it is occasionally met with in the mangrove-swamps bordering the coasts, though near the sea its place is to a great extent usurped by the white-collared species (*H. chloris*).

It appears to be more of a wanderer and of stronger flight than most of the Kingfishers ; I often saw it at some distance from water, frequently perched on the topmost bough of a tree uttering its harsh grating cry.

I found it exceedingly plentiful on the banks of the Perak river. In the neighbourhood of Kwala Kangsar it simply swarmed, and any morning I might have shot a dozen specimens ; as it was, its beautiful plumage induced me to shoot many a one which, but for its fatal beauty, would have escaped.

I am unable to distinguish any difference in the plumage of the sexes.

HALCYON PILEATA (Bodd.). The Black-capped Purple Kingfisher.

Not so common as *H. smyrnensis*, still fairly plentiful throughout the country. I obtained it in Perak, Penang, Moar, Malacca, and Singapore,

As regards its habits, it has much in common with the White-breasted species, frequenting the same localities, and, like it, feeding on frogs, small fishes, and crabs ; but it can at once, even at a distance, be distinguished from that bird by the rich purple colour of its plumage ; also it is rather larger. One evening in November, while Snipe-shooting in the swampy paddy-fields of Singapore, I saw one of these Purple Kingfishers perched on a post which stood eight or nine feet out of a large pool formed by the damming-up of a stream which flowed through the swamp ; suddenly it darted down with a splash into the water, then returned to its former position with its prey, a small frog, which, holding it in its beak by one leg, it despatched by shaking it violently from side to side. At this stage of the proceeding I shot the bird, as I wanted to be sure as to its species and food.

HALCYON CHLORIS (Bodd.). The White-collared Kingfisher.

Particularly plentiful on Pulo Battam, Pulo Nongsa, and all the small islands near Singapore, also common along the mangrove-girt coasts of the mainland ; in fact, it appears to confine itself to the salt or brackish water, and is never met with far from the sea.

Besides restricting itself so entirely to the sea-coasts, it has other characteristics which seem to separate it from the paddy-field and fresh-water Halcyons : unlike most of them, its beak is black, rather short, and the gonys distinctly curves upwards throughout its entire length.

CARCINEUTES PULCHELLUS (Horsf.).

By no means rare ; but of its habits I know nothing.

ALCEDO MININTING, Horsf.

Not very scarce ; I shot it in Perak, and often saw it about the lake in the Botanical Gardens, Singapore.

CEYX RUFIDORSA, Strickl. The Three-toed Ruddy Kingfisher.

By no means common, though I obtained it at both Malacca and Singapore ; at the latter place, during the wet and stormy

weather prevalent at the breaking of the S.W. monsoon many birds used to appear, which were rarely met with at other seasons of the year. Among these, after a very rough night in October, I obtained alive one of these little Kingfishers, which, having flown into the barracks, had been caught by the soldiers.

In exactly the same way one was caught by some of the detachment of my regiment at Malacca.

ALCEDO BENGALENSIS, Gm. The Indian Kingfisher.

This Kingfisher, very like but smaller than the English species, is common everywhere, frequenting the small streams which meander through the paddy-fields.

An adult, shot in Perak on 6th Feb., measured $6\frac{1}{4}$ inches in length, beak at front $1\frac{3}{8}$ inch; irides dark brown, legs red.

CYMBIRHYNCHUS MACRORHYNCHUS (Gm.). The Blue-billed Gaper.

A common bird in the country round Malacca, also in Perak; but I only once met with it on the island of Singapore; it is most often found on the outskirts of thick jungle, or on the edges of clearings—though, if it were not for its bright colours, it would seldom be noticed, being a retiring and particularly silent bird, and, except during the breeding-season, rather inclined to be solitary.

The Blue-billed Gaper breeds during April and May; and the following account of its nesting I take from my notebook:—

“Kwala Kangsar, Perak, 5th May, 1877. This afternoon, while stalking jungle-fowl, which towards dusk come out to feed along the outskirts of the jungle, I saw a Blue-billed Gaper fly out of a large, roughly-made, domed nest, which was hanging from the topmost twigs of a slender sapling, at about 10 feet from the ground; over the entrance, which was on one side, a kind of roof projected, like the slanting shade of a cottage-door. Internally the nest was rather neatly lined with flags and green leaves, and contained four white eggs, $1\frac{1}{2}$ inch long by $\frac{3}{4}$ broad, blotched (principally at the larger end) with rusty-brown marks.”

I found several other nests, all very much alike both as regards construction and situation ; in fact, the above is a typical description ; but I may add that in every case the tree to which the nest was suspended grew either in or on the edge of a swamp.

The sexes do not differ in plumage ; and apparently there is very little, if any, seasonal change. A female, which I dissected, had been feeding on berries.

BUCEROS RHINOCEROS, Linn. The Great Malay Hornbill.

Fairly plentiful in the jungles of the interior, more especially in those parts where the trees are of great size.

I obtained it near Kwala Kangsar, Perak, and on several occasions saw it high up among the enormous forest trees of the Gapis Pass, a most magnificent piece of tropical scenery, through which one had to travel on one's way from Perak to Larut and the sea-coast.

I first came across these Hornbills within a mile or two of Kwala Kangsar : in my notes is :—

“28th January, 1877. Towards nightfall I hid myself in the jungle, near where I saw the boar last night, hoping he would revisit the pool ; but he did not come, though I waited till after dark, and was much bothered by ants and mosquitoes.

While waiting, a flock of Hornbills, of the large Rhinoceros-horned species, flew overhead. Their flight was strong and exceedingly noisy, every flap of their wings making a most peculiar sound, audible at a great distance ; it was very like the shish ! shish ! shish ! with which a railway-train starts ; the birds flew in a V formation, not unlike, but more irregularly than, geese.”

An officer of my regiment shot one of these Hornbills in the camp at Banda Bahru, near the mouth of the Perak river ; it was sitting on the fork of a tree, eating fruit of some kind, but rose on being approached. It is not rare in Malaccan collections, and, I am told, is often seen among the high trees on Penang hill ; it can at once be distinguished from the other Bucerotidæ by the enormous red and yellow horn attached to the upper surface of its beak. From

W. E. Maxwell, Esq., H.M. Assistant Resident of Larut, I hear that the Malays have a strange legend connected with one of the large Hornbills ; but which species, I was not able to find out. It is as follows :—

“A Malay, in order to be revenged on his mother-in-law (why, the legend does not relate), shouldered his axe and made his way to the poor woman's house and began to cut through the posts which supported it. After a few steady chops, the whole edifice came tumbling down ; and he greeted its fall with a peal of laughter. To punish him for his unnatural conduct, he was turned into a bird ; and the ‘te-bang mentuah’ (literally, he who chopped down his mother-in-law) may often be heard in the jungle uttering a series of sharp sounds like the chops of an axe on timber, followed by Ha ! Ha ! Ha ! Ha !”

I asked Mr. Low, H.B.M. Resident of Perak, if he could give me any information as to which species of Hornbill this legend relates to ; and he writes :—“It is the largest Hornbill which is found in Perak, bigger, I should say, than the Rhinoceros Hornbill ; but I have never seen it except flying or on very high trees. The legend about it is very common ; but I do not know the scientific name of that particular Hornbill : but it is not that you refer to, viz. *Berenicornis comatus*, Raffles ; nor is it the Rhinoceros.”

HYDROCISSA CONVEXA (Temm.).

During August 1879 I saw one which had been shot a few days before on Pulo Battam, near Singapore.

HYDROCISSA MALAYANA (Raffl.). The Malay Pied Hornbill.

I occasionally saw this black-and-white Hornbill in the neighbourhood of Kwala Kangsar, generally in the vicinity of villages. During March 1877 a pair were continually about the village of Kota Lama ; but they were so wary that I never got a chance of shooting either of them. The species undoubtedly breeds in Perak, as the Malays brought me young birds but a few weeks old. In August 1877, when up the Moar river, I got one of these Hornbills near Bukit Kopong.

Like all the Hornbills, it is easily tamed, and makes a most amusing pet; the tamest I ever saw was at Trafalgar, a tapioca-plantation on the north side of Singapore, where I stayed for a few days in May 1879. The following is from my note-book :—

“Singapore, 30th May, 1879. On reaching Trafalgar we put on sarongs, and made ourselves comfortable in long chairs, out in the open air, the evening being quite cool. In the course of conversation, Mr. K——, our most hospitable host, mentioned that he had a tame Hornbill; and a few minutes later we saw it sitting on the top of the house; but on being called, it flew down and perched on the backs of our chairs. I never saw such a tame bird. It was quite at liberty; and though it had the full use of its wings and flew about among the trees, it seldom went far away, coming when Mr. K—— called out its name, “Punch,” and taking bread, plantains, and other things out of our hands. It was much pleased with the round buttons on my coat, and tried to tear them off—I suppose, thinking them to be berries of some sort. It was of the black-and-white-species, with white bands near the ends of the long tail-feathers; irides red brown; casque and beak dusky white. At dark it flew up and roosted among some cocoa-nut trees close to the house.”

BERENICORNIS COMATUS (Rafil.). The White-crested Hornbill.

A rare bird in the south, though more common, I believe, in the little-explored jungles of the north of the peninsula. I obtained two specimens from Malacca; and the following are my notes on a third, which I tamed and kept alive for some time, and hoped to bring safely to England:—

“Singapore, 15th September, 1879. To-day Mr. H——, secretary to H.H. the Maharajah of Johore, sent me about the queerest-looking bird I ever saw; it was caught somewhere in the neighbourhood of Mount Ophir, and is, I expect, rare, or the natives would scarcely have thought it worth bringing so far as a present to Mr. H——. I certainly never saw a Hornbill like it: the enormous yellowish-white

beak is without a casque ; bare skin of face dull fleshy purple ; irides pale bluish-grey ; legs and feet black ; head, neck, and underparts covered with hairy plumes, in colour white, with black bases, which form a large crest on the head, which the bird can erect or depress at pleasure ; some of the plumes are of great length, and project forwards over the beak. In length the bird is about 36 inches ; but of that the tail is nearly 14 inches ; tips of wing- and tail-feathers white, as are also the ends of some of the wing-coverts ; upper plumage black, very faintly glossed with green. This most extraordinary-looking creature has a voice as strange as its appearance. From the first glimmer of daylight until dark, with scarcely a minute's cessation, it utters a loud monotonous hoo ! hoo ! hoo ! hoo ! like a dog barking in the distance, only varied by the most demoniacal shrieks and cries at the sight of food. At this time it stretches out its long thinly-feathered neck, and shakes its ungainly head from side to side in the most ridiculous manner, as if it were saying no ! no ! no ! no ! which it certainly does not mean ; for a greater cormorant I never came across : plantains, potatoes, oranges, rice, fish, all are eagerly swallowed ; in fact it is hard to say what it will refuse. This afternoon it bolted a dead Lark, feathers and all, and even then was not satisfied. First holding its food near the tip of its great beak, it turns the plantain, or whatever else it may have, over and over several times ; finally, getting it lengthwise, it tosses it into the air, catches it in its enormous mouth, and, with a tremendous gulp, bolts the dainty morsel entire, though occasionally, when something unusually tough and indigestible has been swallowed, and the bird apparently feels slightly uncomfortable inside, the offending morsel is reproduced with a croak of satisfaction, and the tossing and catching performance is again gone through."

This Hornbill became exceedingly tame, and allowed me to carry it about perched on my hand ; but its incessant hoots and occasional unearthly shrieks so irritated my neighbours, that, after putting up for some days with what I must allow was rather a nuisance, they insisted on the bird's re-

removal to the outhouse, in which our Chinese servants lived. This removal, I believe, sealed its fate; for two days afterwards I found it dying on the ground, apparently from a blow, doubtless administered by one of the servants, whose siesta had been disturbed by its cries; unfortunately (or, rather, fortunately for the culprit) I was not able to prove this to be the case.

This example being a young bird, showed scarcely any signs of the casque on the beak. It was a female; in both sexes when full grown the tail is white; the adult female has the breast black.

A pair from Malacca, which are now before me, measure from 36 to 38 inches in length.

PALEORNIS LONGICAUDA (Bodd.). The Malay Long-tailed Parrakeet.

Common among the islands scattered along the south coast of the peninsula. I often saw it in Singapore, congregating in large flocks during July and August, particularly among the high trees (relics of the old jungle) on the Changie side of the island; but they were hard to shoot, nearly always flying at a great height and very fast, skimming close over the tree-tops, and uttering their shrill cries. When they settled, it was generally on the topmost boughs of an enormous tree, where they were well out of gunshot.

It is easy to identify them, even at a distance, by their characteristic flight and long pointed tails. On 21st July, 1877, I shot one out of a flock of about fifteen, on Pulo Tikong, an island near the mouth of the Johore river.

LORICULUS GALGULUS (Linn.). The Malay Lorikeet.

A common cage-bird in all the settlements, prized on account of its gaudy colours and the ridiculous way it climbs about the wires of its cage, often hanging head downwards. During December I came across a small party of them on Pulo Battam, a large thickly-wooded island near Singapore.

LYNGIPICUS VARIEGATUS (Wagl.). The Grey-headed Pygmy Woodpecker.

One August afternoon I was collecting Honey-suckers in

a cocoa-nut plantation on the Bukit Timah road, Singapore, when a small bird flew past, and, settling on a dead cocoa-nut tree, commenced running up it and searching for insects. On shooting it I found I had got a tiny Woodpecker, and put it down as *I. canicapillus* of Blyth, until Mr. Davison pointed out that, instead of the whole head being grey, the forehead only was of that colour.

Length 5 inches, tarsus $\frac{1}{2}$ inch; irides brown; legs dull green; upper parts dull brown, whitish on the rump, and banded with white; beneath dirty white, streaked longitudinally with dull brown; head and cheeks dull brown, forehead light brown; streak over eye extending to ear-coverts, and another from gape, pure white: on each side of the back of the head is a narrow but very bright orange streak.

HEMICIRCUS SORDIDUS (Eyt.).

My specimen of this heart-spotted Woodpecker was shot on Gunong Pulei, Johore, 5th September, 1879.

MEIGLYPTES TRISTIS (Horsf.).

I saw, but never shot, this Woodpecker in Perak.

TIGA JAVANENSIS (Ljung.).

This Wood-pecker is not very scarce; I shot several in Perak, and some few in Singapore. It frequents cocoa-nut groves.

A female, which I shot near Kota Lama, Perak, on 14th February 1877, measured in length $10\frac{1}{4}$ inches; irides brown, legs black, beak plumbeous.

The male has a crimson crest, and is altogether more decidedly marked than the female, the white drops on the breast being very distinct and regular.

MUELLERIPICUS PULVERULENTUS (Temm.).

Mr. Davison's collector showed me a specimen of this large Woodpecker which, during June, he had shot on Gunong Pulei, Johore.

Length 20 inches; head grey.

THRIFONAX JAVENSIS (Horsf.). The Great Black Woodpecker.

I found this handsome Woodpecker plentiful round Saga-

met, some sixty or eighty miles up the Moar river. I never came across it in the north of the peninsula.

A male I got at Bukit Kopong, on the Moar river, was 15 inches in length; irides yellow, top of head and streak from base of lower mandible scarlet, abdomen rusty white, rest of plumage black.

Callolophus puniceus (Horsf.).

I shot a male of this fine bird while it was running up a tree-trunk, in the jungle, near Kwala Kangsar, Perak; date 6th May, 1877. Length $10\frac{1}{2}$ inches, beak at front $1\frac{2}{3}$ inch; irides dark brown. During July 1879 I saw, but could not get a shot at, one of these Woodpeckers among the high trees at the foot of Bukit Timah, Singapore.

Megalæma chrysopoگون (Temm.). The Golden-bearded Barbet.

Common in Malaccan and Singapore collections. It breeds in the Malay States.

During May 1877, while shooting on the banks of the Perak river, close to Campong Saiyong, a Malay brought me two of these Barbets, saying he had caught them high up in the thickly-wooded range of hills behind the village. They were young birds, and unable to fly more than a few yards; so, putting them in my game-bag, among dead Teal, Snipe, Quail, and other spoil, the result of the day's sport, I took them home, hoping to be able to rear them. At first they did very well, hopping about with a most sprightly gait, every now and then uttering a harsh croak and flirting up their tails; they lived in perfect harmony with the Pheasants, Ground-Thrushes, Doves, and other members of the "happy family" inhabiting my aviary, and fed freely on plantains, pine-apples, and other fruit; but in about a week, just as I began to have hopes of successfully bringing them up, they sickened and died. The sexes are alike.

Megalæma duvauceli (Less.). The Scarlet-eared Barbet.

During the last week in August, while bird-hunting in the jungle, at the foot of Bukit Timah, on the island of Singapore, my attention was attracted by the peculiar cries of a pair of

small, green-coloured birds. Creeping quietly through the bushes, I got unobserved beneath the tree on the topmost twig of which sat one of the birds, and watched it for several minutes. While sending forth its strange notes, which sounded like the words *ter-rook ! ter-rook !* uttered several times in succession, it sat perfectly still, with head raised, neck stretched out to its full extent, and throat distended, apparently quite absorbed in its vocal performance, and heedless of my presence till my shot brought it down.

On dissection it proved to be a male ; and its stomach was full of berries. Its companion, which I also shot, was of smaller size, and had very little black on its head ; probably it was a female ; but, unfortunately, I did not examine it so as to make sure of the sex.

The most noticeable characteristic of the species is the great length of the rictal bristles, which project even beyond the point of the beak.

XANTHOLÆMA HÆMACEPHALA (Müll.). The Crimson-breasted Barbet.

I found this little Barbet fairly plentiful in Perak ; I obtained it during March at Kwala Kangsar.

Hearing a bird uttering a most peculiar, full, clear note in a tree within a few yards of my hut, I took out my gun, bent on securing what I felt sure was something new to me. Though but twelve or fifteen feet away, the bird's voice was so deceptive, and its small size and green plumage made it so difficult to see, that it was several minutes before I caught sight of it and brought it down.

I most carefully examined this bird, and found it agree exactly with Jerdon's description of *Xantholama indica*, with which it appears to be identical. It breeds in Perak, in holes which it excavates in trees ; but personally I did not find a nest. The eggs are white. The sexes are alike. I met with it near Bukit Timah, in Singapore.

CUCULUS MICROPTERUS, Gould. The Indian Cuckoo.

I heard what I supposed (and, I think, rightly) to be the cry of this Cuckoo in the jungle near Kwala Kangsar, Perak ;

it was very like the cuck-oo! cuck-oo! of our well-known English species.

I once, during September, shot a specimen of *C. micropterus* near Cluny, Singapore.

HIEROCOCCYX FUGAX (Horsf.). The Hawk Cuckoo.

Though common, I believe, in India, it certainly is not so in Malaya; I only met with it once, viz. in November 1877, at Tanglin, Singapore. During the early part of the month a great many birds of different sorts flew into our barracks, and were caught by the soldiers. During one week I had brought alive to me three Sparrow-hawks (*Accipiter virgatus*), a Scops Owl (*Scops lempiji*), and a most beautiful specimen of this Hawk-Cuckoo, all caught in the barrack-rooms. It was so like a Hawk in its general appearance that, on first seeing it, and not having before met with the species, for a minute I thought it to be one; but, on close inspection, the feeble beak and feet disclosed its true character. It was an immature female, and had been feeding on seeds and vegetable matter.

I saw a specimen of this bird, shot by Mr. Davison's collector on Gunong Pulei, Johore, during August.

CACOMANTIS THRENODES, Cab. The Rufous-bellied Cuckoo.

Plentiful both throughout the Straits Settlements and the interior of the peninsula. I got it in Perak, Penang, Malacca, and Singapore; in the last-mentioned place it was quite common, though not often noticed, owing to its small size, plain colours, and habit of keeping, as a rule, to trees of dense foliage. It has a most peculiar, monotonous and rather plaintive cry, which I seldom noticed during the heat of the day, though often towards dusk several birds could be heard at the same time, frequently continuing their cries right through the night.

Such was also the case in Hong Kong, where one frequented a tree close to my quarters, and nightly uttered its strange notes, sometimes for hours without cessation. These consist of a series of loud and very clear whistles, uttered in a descending scale, and terminating with a shake or trill,

and are heard at regular intervals of two or three minutes. I obtained my first specimen at Penang during May; but its plumage was exactly similar to that of others which I got later in the year at Singapore. On 19th July, 1879, while driving along the Bukit Timah road, I heard one of these Cuckoos in a mangosteen orchard, and soon spied it out, perched among the highest branches of a clump of bamboos; so, dodging behind the trees, I got within shot and brought it down, a beautiful specimen, ♂.

Length $8\frac{1}{4}$ inches; irides and the inside of the mouth red; beak dusky, reddish at its base; legs yellow; head, neck, and upper tail-coverts pale ashy, the last approaching the dull brown of the back and wings, which are very faintly glossed with metallic green; underparts bright rufous-brown; tail black, but tipped and narrowly barred with white.

EUDYNAMIS MALAYANA, Cab. The Malayan Koel.

During June 1877 I shot one of these Koels near Kwala Kangsar, Perak; it was a female, with its ovaries much developed; its stomach contained several large beans. Length 18 inches; irides crimson-lake; legs plumbeous; beak pale green.

The male is considerably smaller than the female, and quite unspotted, being entirely of a deep shining blue, with rich purple and green reflections. Late in November 1879 I visited Pulo Nongsa, a small island near Singapore, barely half a mile long by sixty or eighty yards in breadth, in fact a mere strip of thick jungle surrounded by a broad coral strand. Hearing most strange mellow notes issuing from the jungle, I sent my Malay boatmen in to beat, and, standing outside on the beach, shot a pair of these Koels as they were driven out into the open. Both were in beautiful plumage, the white markings of the female being exceedingly distinct, and without the slightest sign of the rufous tinge which overspread the above-mentioned Perak specimen; it was also three inches shorter, and more glossed with green and blue than was that bird.

RHOPODYTES SUMATRANUS (Raffl.) The Green-billed Malkoha.

From my note-book I extract the following account of this non-parasitic Cuckoo :—

“Kwala Kangsar, Perak, 16th March, 1877. This afternoon I visited one of the nests I found yesterday, but the owner of which I was then unable to identify; to-day I shot it as it rose from the nest. It is a most curious velvety-faced bird, with the long tail, deeply-cleft beak, and short wings characteristic of the Cuculidæ.

“In plumage its wings and upper parts are of a greenish blue metallic colour, the tail-feathers tipped with white; head, neck, and underparts dull ash-grey; the head, throat, and chin are covered with peculiar spiny hairs; bare velvety skin of the face scarlet, the very curved beak pale pea-green; the eyes are furnished with lashes. Length of bird, including the tail, 16 inches.

“The nest was a loosely-put-together structure of dry twigs, slightly cup-shaped, and built at about 5 feet from the ground, in a bush standing on the edge of a jungle-path. The eggs, two in number, were nearly hatched; they were $1\frac{1}{6}$ inch in length, in colour white, but much stained with brown matter.

“The bird appears to build its own nest, and certainly hatches its own egg; for on two occasions during the last few days I have stood close by and watched it sitting. It did not utter any note or cry, not even when disturbed from its nest.”

Unfortunately I neglected to determine the sex of this bird, so cannot say whether it was the male or female which was incubating.

I got another near Kwala Kangsar during April; but the species is decidedly rare, and I saw very few specimens among the many hundred skins I went through at Malacca.

RHAMPHOCOCCYX ERYTHROGNATHUS (Hartl.). The Large Malay Malkoha.

Concerning this species, my note-book says :—

“Kwala Kangsar, Perak, 9th June, 1877. This afternoon,

crossing the river, I shot Saiyong Jheel for an hour, then struck inland after jungle-fowl.

"The trees were of great size, but the undergrowth not as thick as in most parts, and easily got through. While moving quietly along, on the look-out for a shot, I saw a bird new to me perched on the upper branches of one of the highest trees, so high up that I almost feared it was out of shot; however, such was not the case, and down came a magnificent Malkoha. Length 19 inches; irides pale milky blue; legs dark bluish black; bare skin of the face crimson; beak pea-green, with a red blotch at its base; head dark grey, both it and the chin covered with spiny hairs; back, wings, and tail rich metallic green; the tail is 10 inches in length, with its terminal third deep red-brown, as are also the throat and breast. On dissection it proved to be a male; and its stomach contained the remains of large grasshoppers."

I saw specimens of this bird in the Malaccan collections; but it certainly is not common.

RHINORTHA CHLOROPHÆA (Raffl.). The Small Malkoha.

I shot a male near Kwala Kangsar, Perak, on 26th May, 1877; it had been feeding on grasshoppers.

Length 12 inches; irides dark brown, legs and feet plumbeous, beak and bare skin of the face pale green.

CENTROCOCYX EURYCERCUS (Hay). The Malay Coucal.

Very plentiful throughout the country, both on the mainland and also among the islands. Owing to its flight much resembling that of the common English Pheasant, while its head has a certain likeness to that of a Crow, it is well known to Europeans by the name of "Crow-pheasant." In India its near relation, *C. rufipennis*, also goes by that name.

Their notes, or more correctly hoots, are most peculiar, quite among the most noticeable of jungle noises; and for some time I put them down to the monkeys which abounded round our camp at Kwala Kangsar, till one day I detected the real culprit, as, hearing the cries coming from a thick bush, I threw in a stone, and out came a Crow-pheasant.

The hoots may be described by the syllables hoo! hoo!

hoot! whoop! repeated very loudly over and over again, but occasionally varied by a loud gulp, as Jerdon says, exactly like somebody choking.

CENTROCOCYX BENGALENSIS (Gm.). The Lesser Indian Coucal.

A common bird, particularly among low secondary jungle, and in districts covered with "lalang," a long coarse grass which springs up to a height of over three feet on ground where the jungle has been burned. In such localities it is plentiful at all seasons throughout Perak, Larut, Port Wellesley, Johore, and all the Settlements. In Singapore I shot innumerable specimens, in all stages of plumage, some very dark with only the wings rufous, others pale rufous all over; in fact their plumage varies greatly, according to their age and sex, some being so different from others as to almost seem of another species.

A male which I shot at Singapore, on July 5th, nearly in full adult plumage, measured 12 inches in length, tarsus $1\frac{1}{2}$ inch; irides deep red; legs plumbeous; beak black; head, neck, upper tail-coverts, tail, and underparts black, glossed with metallic green and blue; but the underparts were a good deal blotched with white, which is not, I believe, the case in the quite mature male; wings rufous, with the feathers dusky at their tips; feathers of the back pale-shafted.

Another male, shot in Perak during June, is similar to the above, except that its upper tail-coverts are narrowly barred with rufous-brown.

In striking contrast with both of these is a female, shot at Singapore on 30th August, which was entirely of a pale rufous colour with its upper parts and wings narrowly barred with black; irides brown; beak fleshy, but dusky on the culmen; legs black. Length of bird $13\frac{1}{2}$ inches.

This species is insectivorous; I have seen it chasing grasshoppers.

[To be continued.]